

REMARKS

This responds to the Office Action mailed August 2, 2004. Claims 113-132 are currently pending.

Drawing Objections

The Examiner has objected to FIGS. 3, 4, 6 and 7 because of illegibility.

The objection is respectfully traversed with extreme frustration. It is now very clear that the Patent Office has a significant problem with the vendor(s) it is using for scanning of application figures. The undersigned is repeatedly having to provide and re-provide replacement copies of drawing sheets because the scanning vendor(s) used by the Patent Office are apparently incapable of doing their jobs in a quality fashion. This places an unfair burden on the Office in having to continually issue such objections and an unfair and costly burden upon applicants who have to repeatedly respond to such objections, often to no avail.

In that regard, it is respectfully noted that on October 23, 2003, the Patent Office mailed a "Notice to File Corrected Application Papers" (copy attached as Exhibit 1) seeking the same figures sought by the instant objection, for the same reason. Several calls were made to the Patent Office, each of which involving pointing out that the figures in the parent application, U.S. Patent No. 6,604,866 (viewable on the PTO website), were perfectly clear and legible, as were the figures submitted with the instant continuation application which were also originals and identical thereto. With each person, the response was the same – a generic disclaimer that "it is a vendor problem so there is nothing we can do here" followed by transfer to yet another person in the Office. Finally, the undersigned was directed to Ms. Delora Dillard who was very sympathetic and tried to be helpful. She suggested that a response to the Notice, instead of merely resubmitting the figures without detailed comment, detail the facts regarding the figures as filed and issued in the parent, and as filed in the instant application, so that whoever received the response could see to it that they were re-scanned with greater care. The undersigned did so in a "Response to Notice to File Corrected Application Papers" filed by Express Mail on November 18, 2003 (copy attached as Exhibit 2). Those papers were unquestionably received by the Patent Office as reflected in the Return Postcard bearing the "OIPE" received stamp (copy attached as Exhibit 3). Notwithstanding the above, the instant drawing objection was issued.

The undersigned is at a loss as to what more can be done. Enclosed herewith (as part of Exhibit 2) is yet another set of the requested figures. Undoubtedly they will be sent off for scanning and, based upon past experience, it is highly likely that some form of new Notice will issue. Should the undersigned prove to be prescient in this regard, the undersigned respectfully requests that the Examiner refer to the figures in the parent patent for purposes of examination and take this problem up with the Group Director. Applicants and their agents are willing to do what is necessary to assist the Patent Office in resolving the instant objection, but there is simply no reason why either should have to repeatedly bear the costly burden of dealing with what is obviously an “internal” problem – particularly where, as here, it is becoming obvious that it can not be rectified by any action on their part.

In view of the above, withdrawal of the drawing objection is respectfully requested. Moreover, if the problem persists and the Examiner or the cognizant Director can provide any alternative suggestion the undersigned would be exceedingly grateful if they would do so.

Those objections and rejections that applicants and their agents can address will now be addressed as follows.

The Office Action has objected to Figures 9 and 13-20 as not being marked by a “Prior Art” legend. The objection is respectfully traversed on the grounds that they are not prior art but rather describe alternative configurations of ferrules (or portions thereof) implementing the invention. With respect to FIG. 9, as stated in applicants’ specification at the bottom of p. 13, “Due to the invention, ferrules configured for large arrays of fibers, including specific arrangements such as shown in FIGS. 9A through 9G, having two-dimensional formats larger than the 1 x 12 and 2 x 12 arrays of the prior art can be produced using conventional molding techniques.” (emphasis added).

Similarly, the description of FIGS 13-18 all refer back, directly or indirectly, to and state that they are variants of FIG. 11. The description of FIG. 11 in turn states, “FIG. 11 is an example embodiment of a ferrule 1100 incorporating the invention.”

FIGS. 19 and 20, as is clear from the description located at the bottom of p. 18 and extending into the first four words on p. 19, also illustrate alternative embodiments of the invention. Moreover, even if they did not do so (which is not the case here), the M.P.E.P. only requires that which is, in fact, prior art to be labeled as such.

Accordingly, withdrawal of the objections to FIGS. 9 and 13-20 is respectfully requested.

Finally, the drawings were objected to because they allegedly do not show the “non-circular” limitation of claim 129. This objection is also respectfully traversed. Claim 129, as amended, recites that “the cross-sectional shape of a fiber hole at the face of the ferrule is a non circular shape.” That aspect is clearly illustrated in figs 19B, 19C, 20A, 20B and 20C. Withdrawal of this drawing objection is respectfully requested.

Claim Objections

Claims 114-116 were objected to because of certain informalities, particularly the reference to a “thickness”, a missing antecedent and, at the end of claims 115 and 116, a missing period.

Claims 114-116 have been amended to change the term “thickness” to “length” as was actually intended. It is respectfully submitted that the term “minimum length” has antecedent basis in claim 113 from which they depend.

In addition, claims 115 and 116 have been amended to add the inadvertently omitted missing period.

Claim 124 was also objected to because the units of the pitch dimension was missing. Claim 124 has been amended to add the unit “microns”.

In view of the foregoing amendments, withdrawal of the objections to claims 114-116 and 124 is respectfully requested.

Claim Rejections – 35 USC § 103(a)

Claims 113-117, 120, 123, 125-127 and 129-132 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al., U.S. Patent No. 5,815,621 (hereafter “Sakai”) in view of Omiya et al., U.S. Patent No. 6,158,900 (hereafter “Omiya”).

Claims 118, 119 and 124 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai in view of Omiya in further view of Fig. 2.

Claims 121, 122 and 128 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai in view of Omiya in further view of JP 2002-162536.

The above rejections are all respectfully traversed for the following reasons.

First, it is respectfully submitted that the two references are not properly combinable and there is no motivation to do so, even if they otherwise were combinable.

Specifically, a requirement for the use of the Omiya process to achieve his result is the use of an amorphous alloy molded at temperatures in excess of at least 652°K (approximately 700° Fahrenheit). In contrast, Sakai uses a resin molding process. The two are wholly incompatible. There is nothing in either reference that would lead one to combine the two, let alone provide some indication that they even could be combined. Moreover, Omiya is directed to a technique that is used to create a ferrule for holding a single fiber. There is nothing in that reference that would lead one to believe that the same technique could be used to produce a ferrule for constraining even the two rows of fibers shown in Sakai, let alone do so in practice.

Accordingly, it is respectfully submitted that claim 113 is not obvious over any combination of Sakai and Omiya.

Claims 114-129 all depend either directly or indirectly from allowable claim 113. Accordingly, those claims are allowable for at least the same reasons. Claims 130-132, although method claims, are similarly allowable for the same reasons.

Notwithstanding the allowability of the dependent claims, based upon the above, numerous dependent claims are also allowable in their own right because they are not disclosed or fairly suggested by any combination of the cited references.

For example, amended claim 114 recites that the fiber hole length is “between about 1000 microns and the minimum length.” Claim 115 recites that the fiber hole length is “between about 500 microns and the minimum length.” Claim 116 recites that the fiber hole length is “between about 150 microns and the minimum length.” The Office Action suggests that because Omiya discloses a length of less than 6mm (6000 microns) that necessarily reads on the subject matter of those claims. It is respectfully submitted that the rejection is both factually and legally incorrect.

First, as to the facts (ignoring the problems with respect to the combination of Sakai and Omiya), the Office Action is wrong because Omiya specifically only discloses a length of greater than 1 mm (i.e. 1000 microns) and less than 6mm.

In such a ferrule 1, it is desired that the through-hole has a length of not less than 1 mm for the small-diameter part 3 for the insertion of an optical fiber end and a length L2 of less than 6 mm for the total of the small-diameter part 3 and the tapered-diameter part 4.

If the length, L1, of the small-diameter part of the ferrule for the insertion of an optical fiber end is less than 1 mm, the parallelism of the small diameter part 3 to the outside diameter of the ferrule will not be easily attained and the connection of two optical fibers by the abutment of the end faces of the ferrules will be easily impaired. Thus, the length, L1, must be not less than 1 mm.

Omiya at Col. 5, lines 29-40 (emphasis added).

Thus, contrary to the Office Action's assertion, Omiya not only doesn't disclose what is claimed, it expressly teaches away from what is claimed. For this factual reason, claims 114-116 are nonobvious.

Moreover, as a legal matter, the Office Action is wrong. Disclosure of a genus does not necessarily render obvious any species falling within it. Such a position has been specifically rejected in In re Jones, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992)(rejecting Commissioner's argument that disclosure of genus "renders obvious any species that happens to fall within it."). Second, there are a near infinite number of thicknesses between 6000 microns and 150 microns and nothing in the references that would suggest why, among all the possible lengths, one would seek the claimed length – particularly where the reference teaches away from doing so. See In re Baird, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994)("While the Knapp formula unquestionably encompasses bisphenol A when specific variables are chosen, there is nothing in the disclosure of Knapp suggesting that one should select such variables. Indeed, Knapp appears to teach away from the selection of bisphenol A . . ."); In re Belle, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993)(reversed holding of obviousness where near infinite number of possibilities existed and nothing suggesting why, among all possibilities, one would select the one claimed).

For these further reasons, withdrawal of the rejections of claims 114-116 is respectfully solicited.

With respect to the subject matter of claim 127, it is respectfully noted that, as disclosed in the application, the "inner surface" is defined in applicants specification as "the innermost part 812 of the chamber 806" and with respect to the angled inner surface of claim 127, is illustrated in, for example, the portion of the ferrules labeled "1316" in FIGS. 13 and 14, "1516" in FIGS.

15 and 16, and “1716” in FIG. 17. Unlabeled further illustrations are readily observable in FIG. 18, FIG. 19A and FIGS. 20A-20C.

It is respectfully submitted that the element “140” of Sakai is not analogous to the “inner surface” limitation, but rather the analog in Sakai is readily visible in FIGS. 26-28 and 30-37 and must be looked at relative to the “face” analog in Sakai (which appears to be the element labeled “115”). In each of those figures, when properly viewed, none of the cited references fairly disclose or suggest an angled “inner surface” relative to the face, but rather the inner surfaces are all parallel to the face.

Thus, withdrawal of the rejection of claim 127 is respectfully requested.

With respect to the rejection of claim 129, it is respectfully noted that FIG. 19 does not illustrate fiber holes, it illustrates a clamp for holding pins used in the molding of a ferrule according to the Sakai approach (see Sakai at col. 4, lines 31-32 in conjunction with the description with respect to Sakai FIG. 9). Nowhere in the cited references is there any disclosure of a fiber hole that is non-circular at the face of the ferrule.

Withdrawal of the rejection of claim 129 is respectfully requested.

Claim 132 specifically recites that the ferrule is formed by “machining.” As noted above, both Sakai and Omiya deal with molding. It is respectfully submitted that molding and machining are not the same and disclosure of one does not render the other obvious.

Withdrawal of the rejection of claim 132 is respectfully requested.

CONCLUSION

Based on the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims and early favorable allowance of this application.

AUTHORIZATION

Although no fees are believed due for consideration of this Amendment and Response, if any such fee is required, the Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4500, Order No. 4024-4028US1. In the event that an extension of time is required, or may be required for consideration of this Amendment and Response on the merits, such petition for an extension of time is made hereby for as much time as would be required to make this Amendment and

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Response timely and the Commissioner is authorized to charge any fee for such an extension of time to the above Deposit Account and Order No. and further requested to grant such petition.

Respectfully submitted,

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